EXPOSURE REDUCTION IN SAN FRANCISCO BAY

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WHAT IS THE PROBLEM?

- Mercury and PCBs are elevated in many types of San Francisco Bay fish
- Many people eat Bay fish (fishermen and their families)
WHAT IS “EXPOSURE REDUCTION”?

- Activities to reduce human exposure to mercury and PCBs from consumption of Bay fish
- Informing people vs. reducing their exposure
- Community based
WHY “EXPOSURE REDUCTION” ACTIVITIES NOW?

- Part of the Water Board’s action plan (TMDLs) for cleaning up SF Bay
- The mercury [and PCB] problem in SF Bay may take decades to solve. Activities...should be taken immediately to help manage the risk to [fish] consumers*
- Exposure reduction is a requirement in SF Bay discharger permits
- New advisory for SF Bay in 2011

*from the Basin Plan Amendment for Addressing Mercury in SF Bay
WHAT IS THE SAN FRANCISCO BAY FISH PROJECT?

- Two-year project (Nov. 2010 to Oct. 2012) to raise awareness about mercury and PCBs in SFB fish and reduce exposures
- Coordinated by CDPH in collaboration with diverse groups
- Funding ($290k) from dischargers and USEPA
- Activities:
  - Convene Stakeholder Advisory Group (SAG)
  - Develop educational materials
  - Develop and post San Francisco Bay warning sign
  - Support community-based projects
  - Conduct training and technical assistance
  - Evaluation
STAKEHOLDER ADVISORY GROUP (SAG)

- SAG meets quarterly
- Comprised of community groups, local and state agencies, USEPA, dischargers, fishing site managers, and others
- Provided feedback and guidance on project activities
- Provided new information to SAG members
- Led to new activities
  - Warning signs
  - SAG members integrating fish messages in ongoing activities
EAST BAY REGIONAL PARK DISTRICT
MOBILE FISH EXHIBIT

Photo: Simone Lewis-Koskinen, Seaweb.org
EDUCATIONAL MATERIALS

- Developed 4 panel advisory brochures
- “Kiosk” poster
- Translation to 10 languages:
  - Spanish
  - Chinese
  - Tagalog
  - Vietnamese
  - Cambodian
  - Laotian
  - Samoan
  - Tongan
  - Korean
  - Japanese
- Educational video
SAN FRANCISCO BAY WARNING SIGN

• Designed to be understood visually with limited English
• Simplified advisory
• “End state behavior”
• “QR” code and website www.sfbayfish.org
SAN FRANCISCO BAY WARNING SIGN

- Posting by counties, cities, ports, parks, etc.
- After 7 months, signs up at 71/144 sites in 7 counties (~50% of sites)

Vallejo Promenade
SF BAY WARNING SIGN EVALUATION

- 37 anglers interviewed at 10 sites in 5 counties
- 92% had seen the sign (34/37)
- 62% could correctly remember “eat this” fish (21/34)
- 32% said sign would influence future decisions (11/34)
FUNDED COMMUNITY GROUPS

• Four community groups awarded $20,000 to $25,000 grants
• Outreach and educational to Asian and Pacific Islanders through community partners, and at community events, fishing locations, clinics, etc.

• Conducted bilingual workshops on fish contamination issues to at-risk groups
Waiting room survey and education at Women, Infants, and Children (WIC) clinic in Fruitvale (Oakland)

Trained WIC clinic staff on fish contamination issues

Developed and delivered “Making Healthy Fish Choices” curriculum over a 5-month period for WIC clients
• Interviews and education of fishermen at fishing locations in Bayview-Hunters Point (San Francisco)
• Community presentations (churches, community events) and workshops with women of childbearing age at health clinics and hospitals
• Delivered safe Bay fish lessons to six elementary school classes
• Trained students to give presentations to family members and school peers
• Trained students to interview and educate fishermen at fishing piers
TRAINING AND TECHNICAL ASSISTANCE

• Training for funded groups and their project partners on fish contamination issues
• Training for funded groups on evaluation methods
• Technical assistance for funded groups:
  – Review of project materials (e.g., curriculum, questionnaires, educational materials)
  – Focus groups
  – Translation and printing
  – Developed evaluation tools
  – Conduct site visits
  – Conduct exit interviews (lessons learned, challenges, capacity building, sustainability, evaluation of CDPH)
EVALUATION OF COMMUNITY PROJECTS

Outputs—Who participated?

• Number of participants
• Are participants consumers of SFB fish?
• Are consumers “at risk”? (women 18-45/children, moderate-high consumer, eats highly contaminated species)
• Are there other household members who eat SFB fish?

Projects reached (at least) 5700+ SF Bay fish consumers and 17,000+ other household members
EVALUATION OF COMMUNITY PROJECTS

Outcomes—What changed as a result of the project?

• Increase in knowledge (specific):
  
  – Which type or types of San Francisco Bay fish should not be eaten by anyone?
    
    a) Brown rockfish
    
    b) Jacksmelt
    
    c) Surfperches
    
    d) Halibut
    
    e) Don’t know

APA Family Support Services saw an increase in pre/post test scores among workshop attendees
Outcomes—What changed as a result of the project?

• Increase in knowledge (general):
  – Has talking with me today increased your knowledge of the consumption advisory for San Francisco Bay?
  – 93% agree

• Access to information:
  – Do you have the information you need to reduce your exposure to chemicals from eating San Francisco Bay fish?
  – 89% agree

• Intent to change:
  – Do you think you are likely to avoid eating surfperches from the San Francisco Bay?
  – 74% agree

Results from CIEA project among WIC clinic clients (N=47)
NEXT STEPS

- Two-year project completed
- Continuing to post signs
- Distributing educational materials
- Exploring funding options to continue
- Applying lessons learned to Delta
PROJECT STAFF AND COLLABORATORS

• CDPH
  – Tivo Rojas-Cheatham
  – Ian Walker
  – Aida Negrón
  – Lauren Wohl-Sanchez
  – Kelsie Scruggs
  – Olga Martinez
• Margy Gassel, OEHHA
• Jan O’Hara and Naomi Feger, San Francisco Bay Regional Water Quality Control Board
• San Francisco Estuary Institute/Aquatic Science Center
• Stakeholder Advisory Group

• Funded Groups
  – Marie Harrison and Rose Chan, Greenaction for Health and Environmental Justice
  – Farmmary Saephan, APA Family Support Services
  – Angela Berry-Philip, California Indian Environmental Alliance
  – Jonah Landor-Yamagata, Kids for the Bay

• Primary Project Funders
  – Bay Area Clean Water Agencies
  – Western States Petroleum Association
  – Bay Area Stormwater Management Agencies Association
  – US Environmental Protection Agency
FOR MORE INFORMATION

• SFB Fish Project website:  www.sfei.org/sfbfp
• Final project report:  http://sfei.org/content/documents-0
• Educational materials and warning sign:  http://sfei.org/content/educational-materials
• Educational video:  http://sfei.org/content/grantees-2011-2012
• Join our SAG email list
• Contact information:
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Questions?